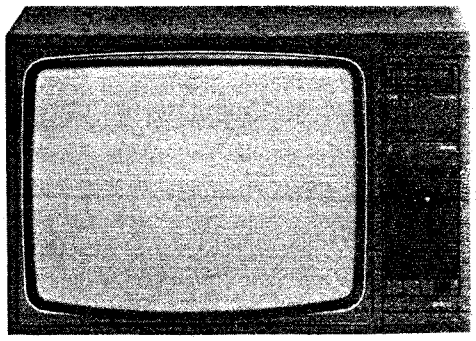
Colour television

26 CS 1205/07T/10Z

22 CS 1201/00P/02Z/07T/12P/12Z

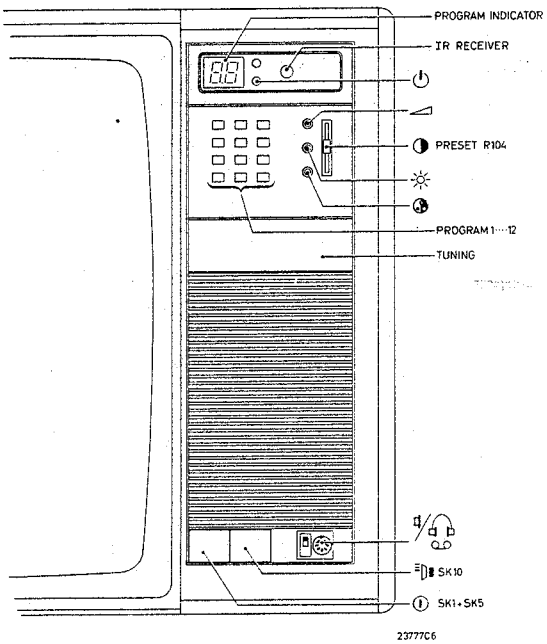
Service
Service
Service



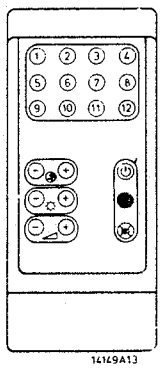
23806A

# Service Manual

## CHASSIS K 30




23777C6




14149A13

220-240 V/100 W

75 Ω coax.

A56-540X
A66-540X

15 Ω/4 W

–

8-600 Ω

360°

–

180°

22" 26"
675 mm/758 mm

458 mm/512 mm

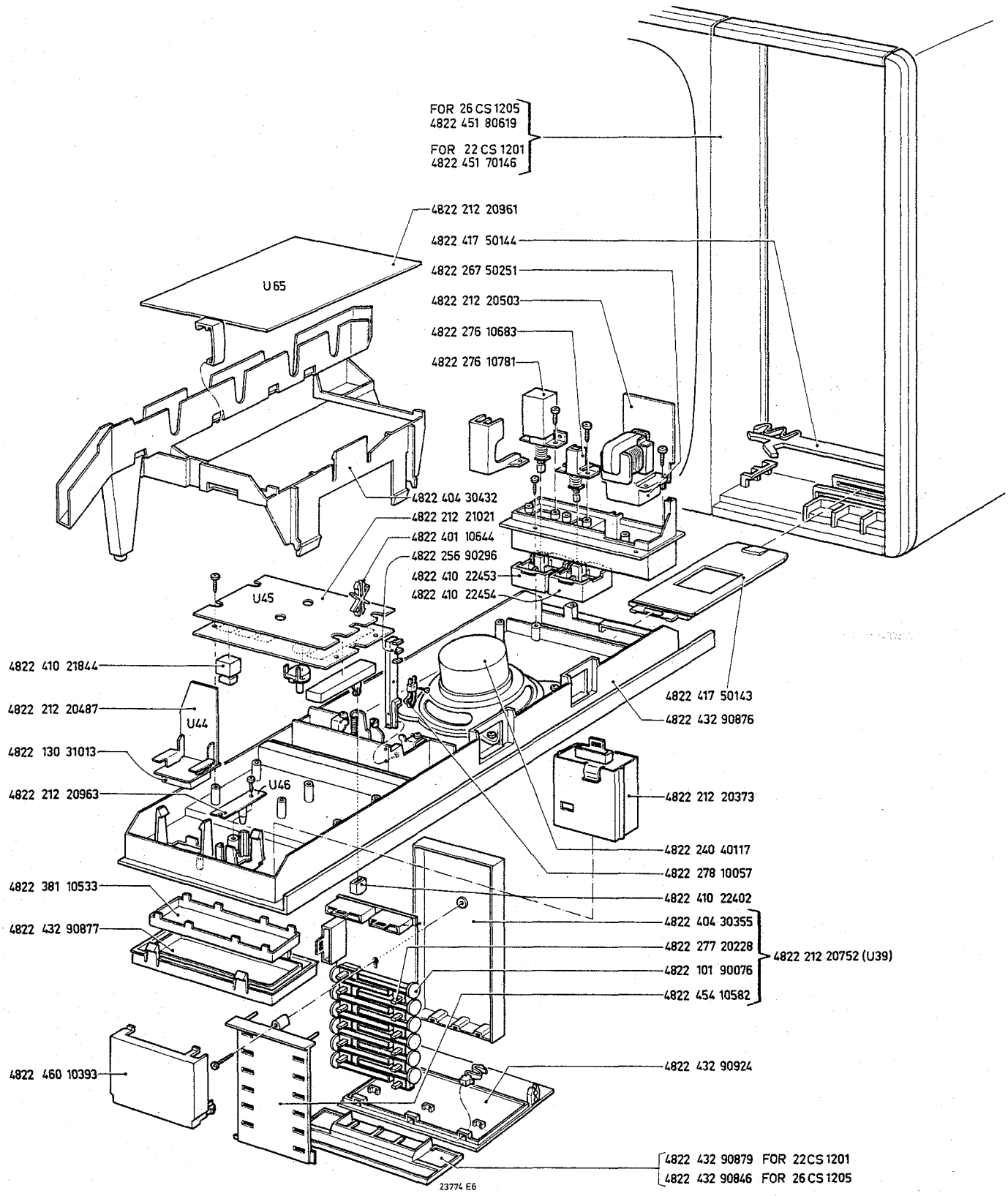
405 mm/448 mm

| ELC2004 | V315+U322/ELC2006 |
|---|---|
| VHFa : 47 - 68 MHz | VHFa : 47 - 111 MHz |
| VHFb : 174 - 230 MHz | VHFb : 111 - 293 MHz |
| UHF : 470 - 892 MHz | UHF : 470 - 892 MHz |

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço


Subject to modification
GB NL F D I
4822 727 13761
Printed in The Netherlands


PHILIPS


FOR 26 CS 1205
4822 451 80619
FOR 22 CS 1201
4822 451 70146
4822 212 20961
4822 417 50144
4822 267 50251
4822 212 20503
4822 276 10683
4822 276 10781
U65
4822 404 30432
4822 212 21021
4822 401 10644
4822 256 90296
4822 410 22453
4822 410 22454
U45
4822 410 21844
4822 212 20487
U44
4822 130 31013
4822 212 20963
U46
4822 417 50143
4822 432 90876
4822 212 20373
4822 240 40117
4822 278 10057
4822 410 22402
4822 381 10533
4822 432 90877
4822 404 30355
4822 277 20228
4822 101 90076
4822 454 10582
4822 212 20752 (U39)
4822 460 10393
4822 432 90924
4822 432 90879 FOR 22CS 1201
4822 432 90846 FOR 26 CS 1205
23774 E6

## (GB) Adjusting the transmitter

If the battery voltage is under 7.5 V, the battery has to be replaced before making adjustments.
- Connect a frequency counter to point 7 of IC101, via a 1.5 pF capacitor.
  Depress one of the transmitter keys.
  Adjust the frequency to 36.1 kHz with C102.
- In case a frequency counter is non-available, the following procedure may be followed.
  Connect an oscilloscope to point 4 of the plug on the infrared receiver unit.
  Switch on the TV-set with the mains switch.
  Depress one of the transmitter keys.
  If on the oscilloscope the oscillogram of Fig. 1 appears, the transmitter should be directed away from the receiver until the oscillogram of Fig. 2 appears.
  Next, adjust to maximum voltage with C102, the position of transmitter and receiver may not be changed.

## (F) Réglage de l'émetteur

Si la tension de pile est < 7,5 V, il faudra d'abord procéder au remplacement de la pile avant d'effectuer le réglage.
- Brancher le compteur de fréquence à travers un condensateur de 1,5 pF sur le point 7 du CI 101
  Presser un des boutons de l'emetteur.
  Régler la fréquence sur 36,1 kHz à l'aide de C102.
- Si l'on ne possède pas de compteur de fréquence, appliquer la méthode suivante.
  Brancher un oscilloscope sur le point 4 de la fiche de l'unité de réception par infra-rouge.
  Mettre l'appareil TV en marche par l'interrupteur secteur. Presser un des boutons de l'émetteur.
  Si l'on obtient l'oscillogramme de la Fig. 1, éloigner l'émetteur du récepteur jusqu'à l'obtention de l'oscillogramme de la Fig. 2.
  Régler à présent C102 pour une tension maximum, la position entre l'émetteur et le récepteur doit être inchangée.

## (I) Regolazione dell'emettitore

Se la tensione di batteria è inferiore a 7,5 V, è necessario sostituire la batteria prima di eseguire le regolazioni.
- Collegare un frequenzimetro tramite un condensatore di 1,5 pF al punto 7 di IC101.
  Premere uno dei tasti dell'emettitore.
  Regolare con C102 la frequenza a 36,1 kHz.
- Nel caso in cui non sia disponibile un frequenzimetro seguire il seguente metodo.
  Collegare un oscillografo al punto 4 dello spinotto dell'unità del ricevitore a raggi infrarossi.
  Inserire il televisore con l'interruttore di rete.
  Premere uno dei tasti dell'emettitore.
  Se sull'oscillografo appare l'oscillogramma di Fig. 1, allontanare l'emettitore dal ricevitore fino ad ottenere l'oscillogramma di Fig. 2.
  Regolare quindi C102 per la massima tensione, mantenendo invariata la distanza tra l'emettitore ed il ricevitore.

## (NL) Afregelen van de zender

Indien de batterijspanning <7,5 V, dient men eerst de batterij te vervangen alvorens met afregelen te beginnen.
- Sluit een frekwentieteller via een condensator van 1,5 pF aan op punt 7 van IC101.
  Druk één van de knoppen van de zender in.
  Regel met C102 de frekwentie af op 36,1 kHz.
- Indien geen frekwentieteller voorhanden is, kan de volgende benaderingsmethode worden toegepast.
  Sluit een oscilloscoop aan op punt 4 van de plug op de infra-rood ontvanger unit.
  Schakel het TV apparaat met de netschakelaar in.
  Druk één van de knoppen van de zender in.
  Indien op de oscilloscoop het oscillogram van Fig. 1 verschijnt, dient men de zender zodanig van de ontvanger weg te richten totdat het oscillogram van Fig. 2 ontstaat.
  Regel nu C102 af op maximum spanning waarbij de positie tussen zender en ontvanger niet mag wijzigen.

## (D) Abgleichen des Senders

Ist die Batteriespannung < 7,5 V, dann muss man die Batterie ersetzen ehe man mit den Abgleicharbeiten beginnt.
- Einen Frequenzzähler über einen 1,5 pF-Kondensator an Punkt 7 von IC101 anschliessen.
  Einen der Knöpfe des Senders drücken.
  Mit C102 die Frequenz auf 36,1 kHz.
- Steht kein Frequenzzähler zur Verfügung, so kann folgende Annäherungsmethode angewandt werden.
  Ein Oszilloskop an Punkt 4 der Buchse auf der Infrarot-Empfänger-Einheit anschliessen.
  Das Fernsehgerät mit dem Netzschalter einschalten.
  Einen der Knöpfe des Senders drücken.
  Erscheint am Oszilloskop das Oszillogramm nach Abb. 1, so muss man den Sender so vom Empfänger wegdrehen, dass das Oszillogramm nach Abb. 2 entsteht. Dann C102 auf Maximumspannung einstellen, wobei sich die Position zwischen Sender und Empfänger nicht ändern soll.

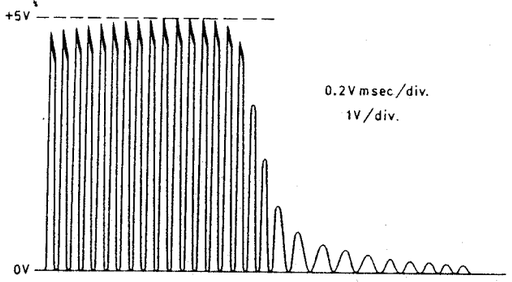



Fig. 1

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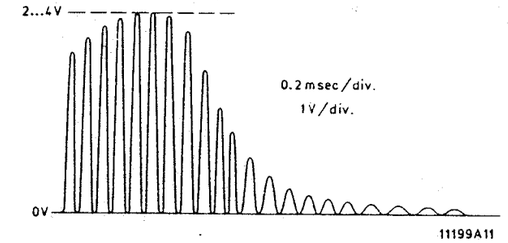
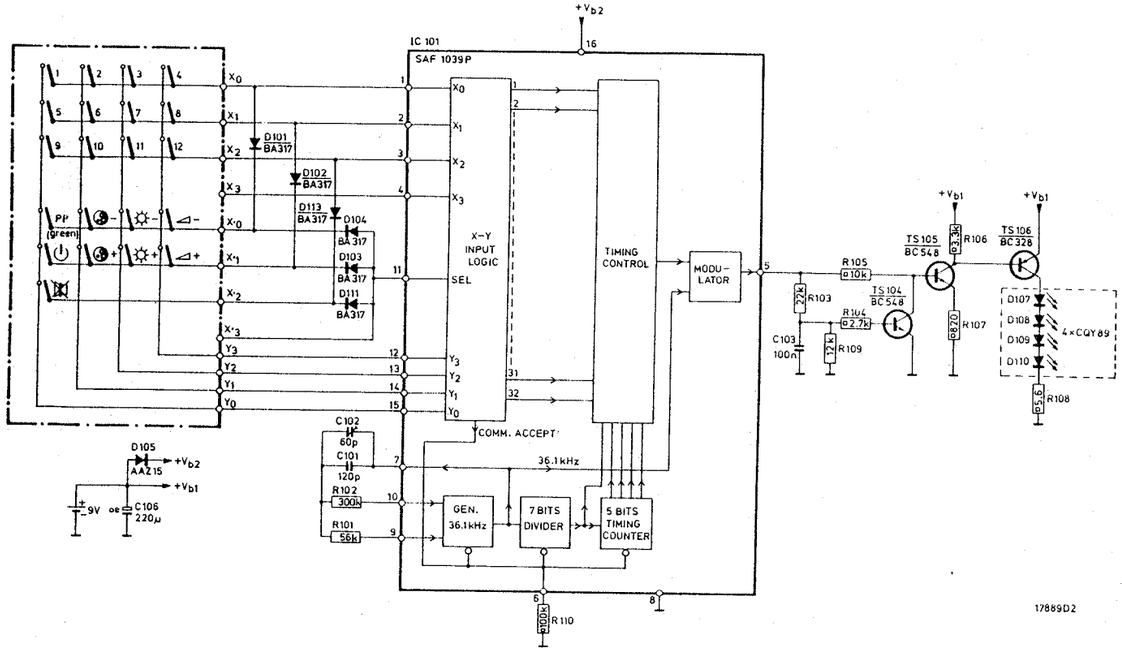
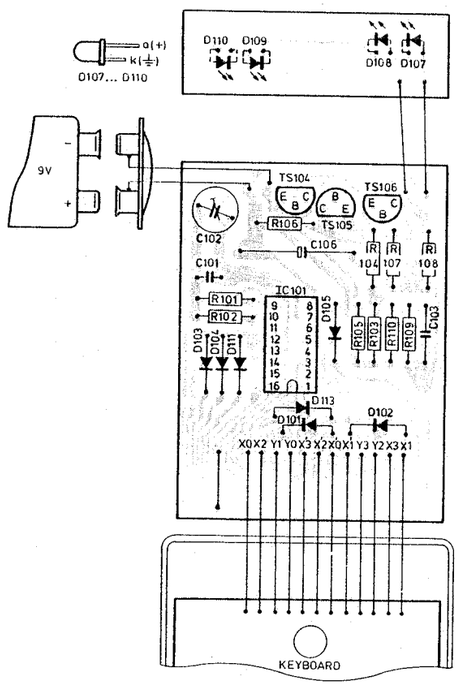
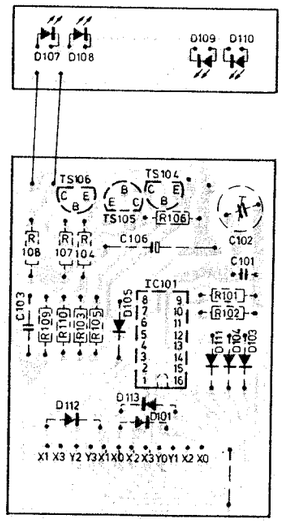



Fig. 2

11199A11




16832C2

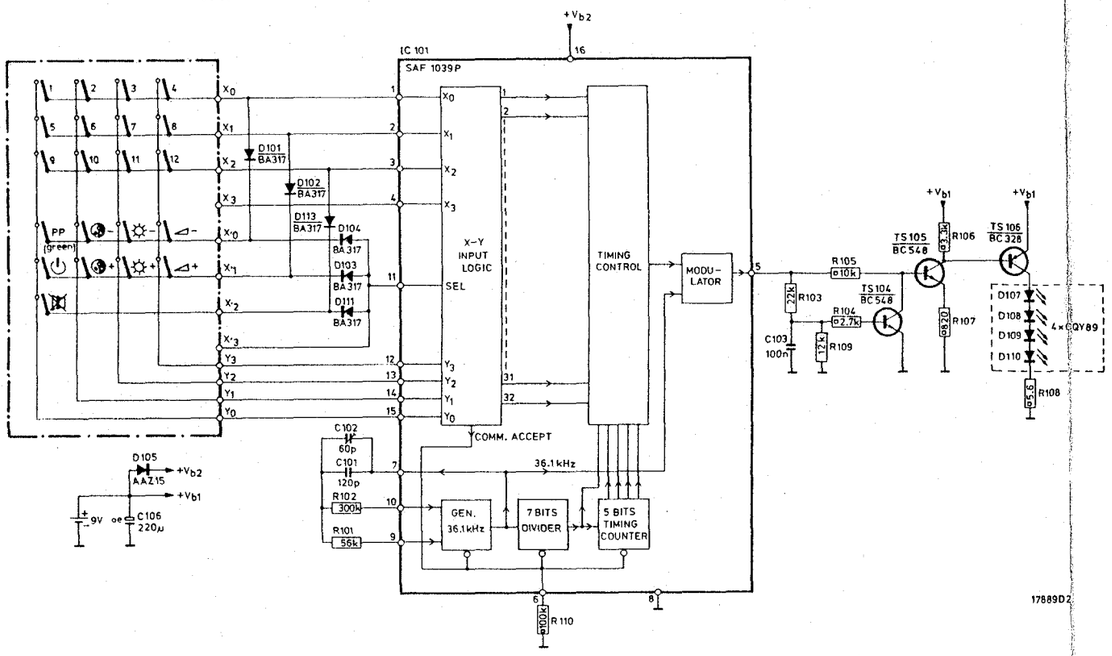
4822 432 3
4822 455 5
4822 290 8
4822 212 2
4822 432 3
4822 404 3
4822 432 3
4822 462 7
4822 432 3

IC
SAF1039P

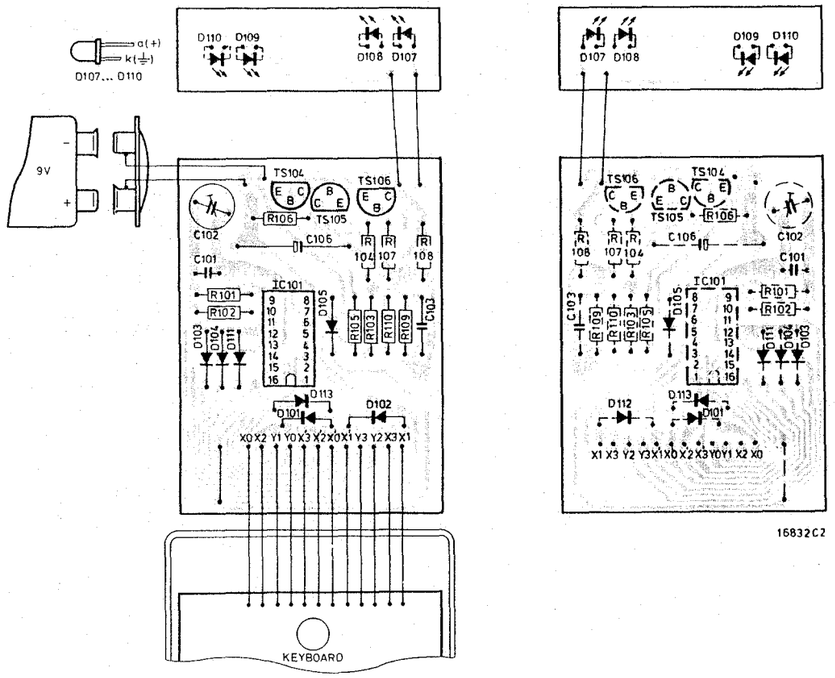
BC328
BC548

AAZ15
BA317

CQY89




17889D2







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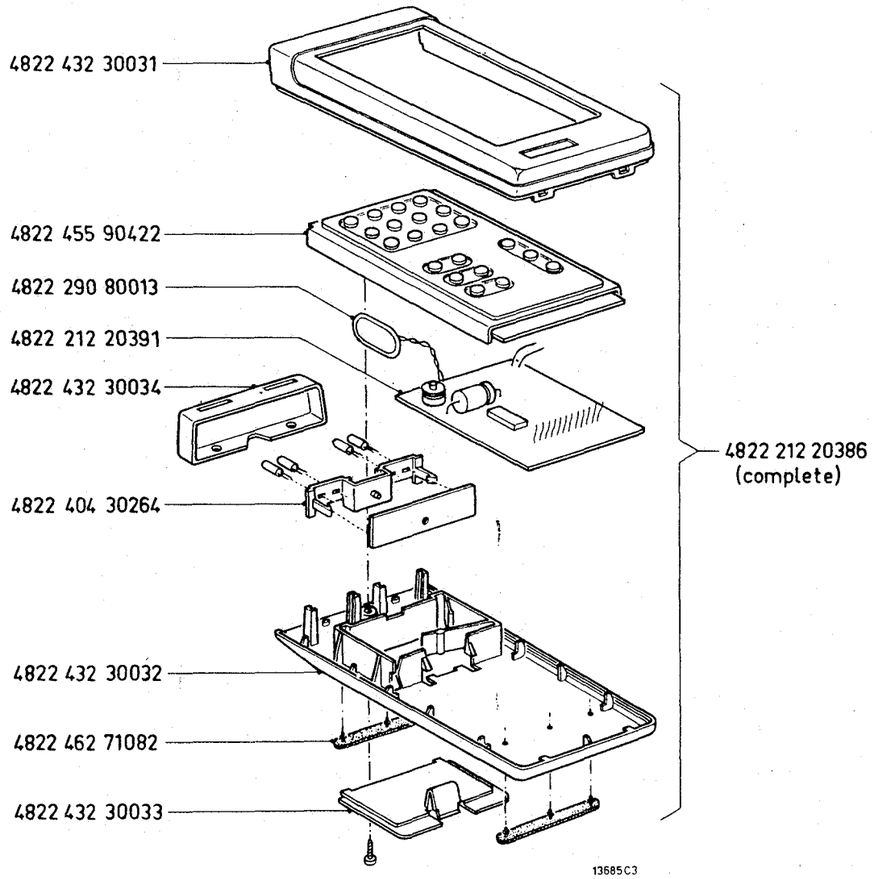
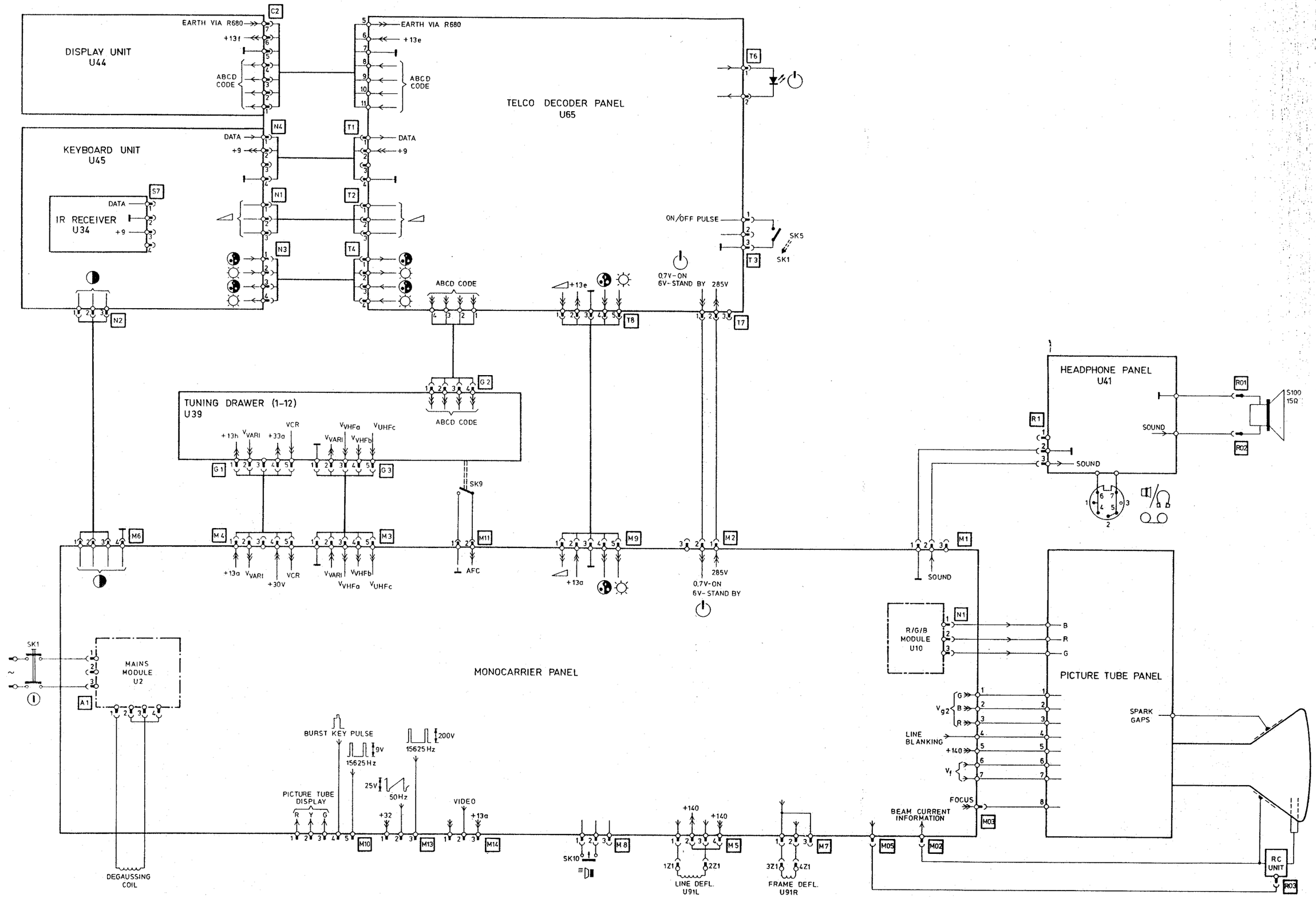
11199A11




13685C3

| | | |
|---|---|---|
| IC | | |
| SAF1039P | | 4822 209 10035 |
| BC328 | | 4822 130 44104 |
| BC548 | | 4822 130 40938 |
| AAZ15 | | 5322 130 30229 |
| BA317 | | 4822 130 30847 |
| CQY89 | | 4822 130 30949 |

| | | |
|---|---|---|
| R101 | 56 kΩ - 0.4 W | 5322 116 54676 |
| R102 | 300 kΩ - 0.4 W | 5322 116 54743 |
| R103 | 22 kΩ - 0.4 W | 5322 116 54574 |
| R109 | 12 kΩ - 0.4 W | 5322 116 50572 |
| C101 | 120 pF - 2 % | 4822 121 50548 |
| C102 | Trimmer 60 pF | 4822 125 50017 |


DISPLAY UNIT
U44
EARTH VIA R680
+13f
ABCD CODE
KEYBOARD UNIT
U45
DATA
+9
IR RECEIVER
U34
S7
TELCO DECODER PANEL
U65
+13e
T6
T1
T2
T4
T3
T7
T8
ON/OFF PULSE
SK5
SK1
0.7V-ON
6V-STAND BY
285V
N4
N1
N3
N2
G2
TUNING DRAWER (1-12)
U39
+13h
VARI
+33a
VCR
VHFa
VHFb
VUHFc
G1
G3
SK9
M6
M4
M3
M11
M9
M2
M1
+30V
AFC
+13a
SOUND
HEADPHONE PANEL
U41
R01
R02
R1
S100
15Ω
MONOCARRIER PANEL
SK1
MAINS
MODULE
U2
A1
DEGAUSSING
COIL
BURST KEY PULSE
9V
15625Hz
200V
25V
50Hz
+32
PICTURE TUBE
DISPLAY
R Y G
VIDEO
M10
M13
M14
SK10
M8
+140
1Z1
2Z1
LINE DEFL.
U91L
3Z1
4Z1
FRAME DEFL.
U91R
M7
M5
M03
M02
M05
BEAM CURRENT
INFORMATION
R/G/B
MODULE
U10
N1
B
R
G
PICTURE TUBE PANEL
SPARK
GAPS
Vg2
LINE
BLANKING
Vf
FOCUS
RC
UNIT
R03
21192E12

CS 72 477

IC

| | | |
|---|---|---|
| MAN6750 Display | | 4822 130 31013 |
| MC14001UBPC | | 4822 209 10041 |
| SAF1032P | | 4822 209 10008 |
| SAF1039P | | 4822 209 10035 |
| SN29764AN | | 4822 209 80414 |
| SN29770BN-00 | | 4822 209 80346 |
| SN29771BN-00 | | 4822 209 80347 |
| SN29772BN-00 | | 4822 209 80352 |

| | | |
|---|---|---|
| BC548 | | 4822 130 40938 |
| BC548C | | 4822 130 44196 |
| BC558 | | 4822 130 40941 |
| BC558B | | 4822 130 44197 |

| | | |
|---|---|---|
| BA317 | | 4822 130 30847 |
| BZX79-C6V8 | | 4822 130 34278 |
| BZX79-B9V1 | | 4822 130 30862 |
| BZX87-C5V1 | | 5322 130 34425 |

| | | | |
|---|---|---|---|
| R1÷R12 | U39 | 100 kΩ | 4822 101 90076 |
| R58 | U44 | 22 Ω | 4822 116 51086 |
| R831÷R833 | U45 | 10 kΩ | 4822 100 10334 |
| R834 | U45 | 22 kΩ | 4822 105 10401 |
| R800 | U65 | 8.2 kΩ | 4822 113 80257 |
| R801 | U65 | 10 kΩ | 4822 113 80256 |

| | | | |
|---|---|---|---|
| C842 | U45 | 150 pF - 160 V | 4822 124 20854 |
| C806 | U65 | 150 pF - 160 V | 4822 124 20854 |

MODULE

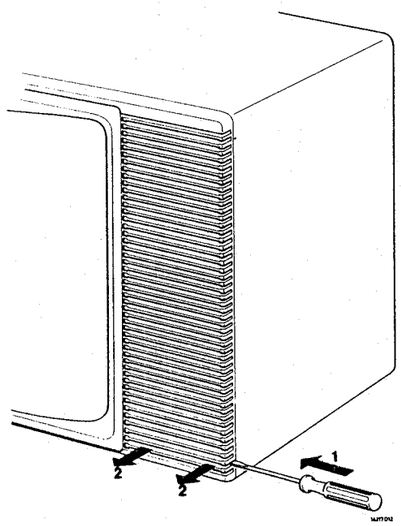
| | | |
|---|---|---|
| U39 | Tuning drawer | 4822 212 20752 |
| U41 | Headphone panel | 4822 212 20964 |
| U44 | Program indication | 4822 212 20487 |
| U45 | Keyboard panel | 4822 212 21021 |
| U46 | LED panel | 4822 212 20963 |
| U65 | Telco decod panel | 4822 212 20961 |

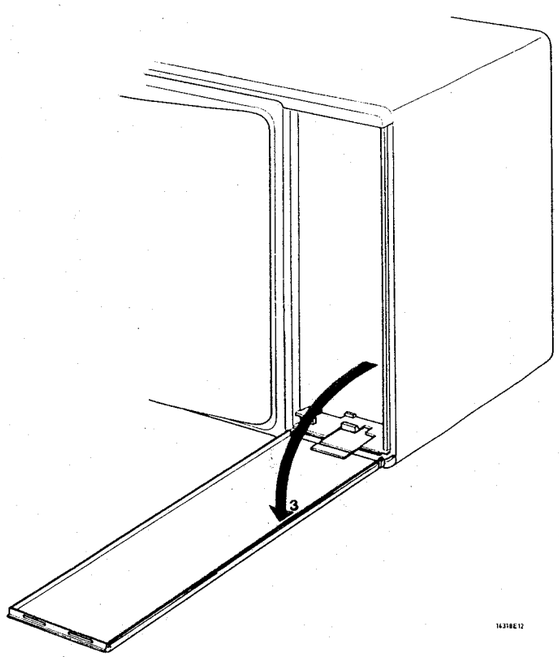
| | | |
|---|---|---|
| SK1÷5 | | 4822 276 10718 |
| SK9 | | 4822 278 10057 |
| SK10 | | 4822 276 10683 |
| SK101÷112 | | 4822 277 20228 |

| | | |
|---|---|---|
| S100 | Loudspeaker | 4822 240 40117 |
| S1C2,103 | Degaus. coil (For 22") | 4822 157 50848 |
| S108÷803 | U65 | 4822 158 10082 |
| T94 | U41 | 4822 142 40256 |
| U91 | Defl. unit (For 22") | 4822 150 10125 |

| | | |
|---|---|---|
| R411 | 27 Ω | 4822 111 30408 |

| | | |
|---|---|---|
| CQX38B | | 4822 130 31343 |

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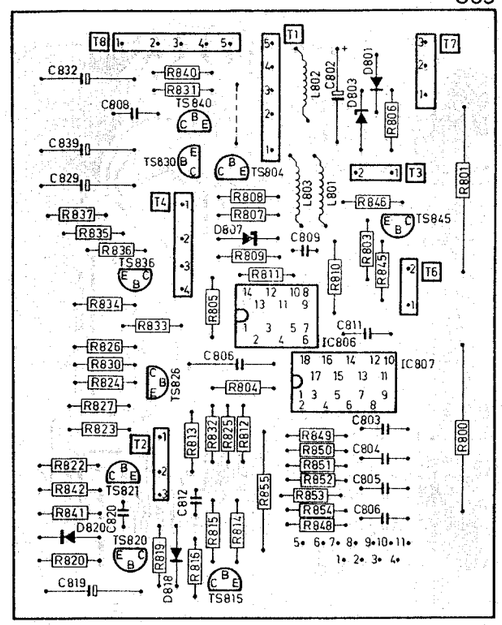

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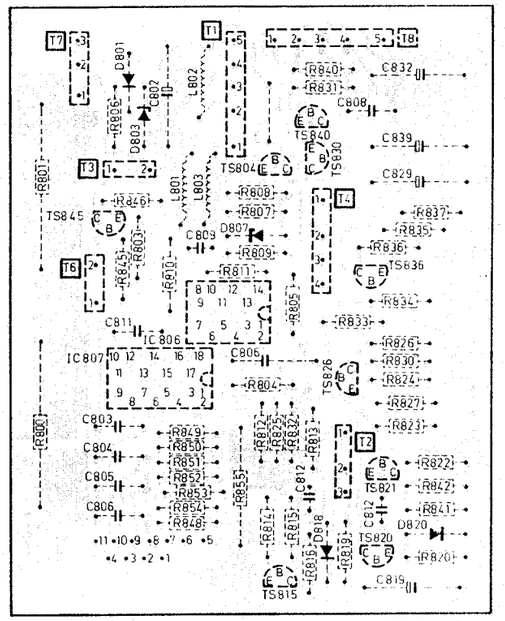

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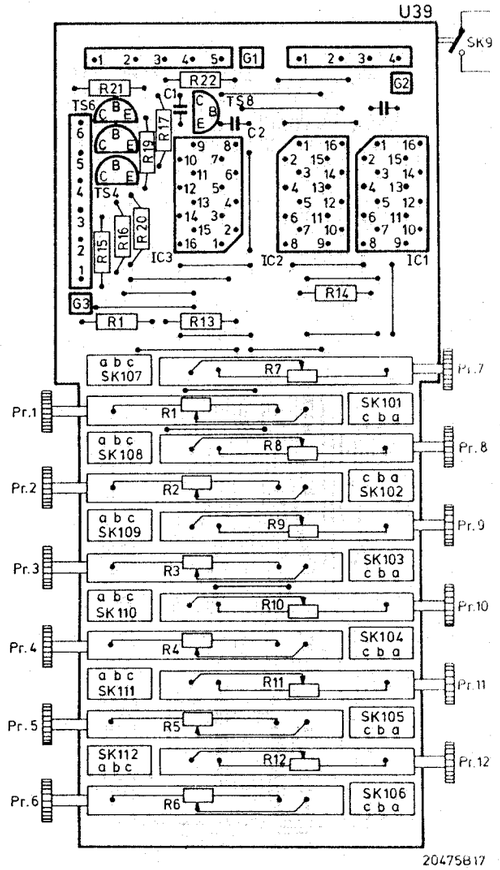


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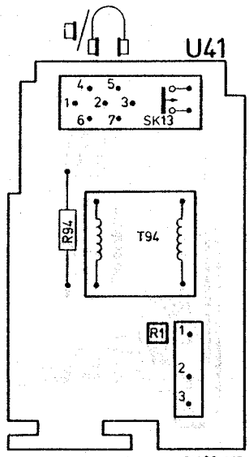
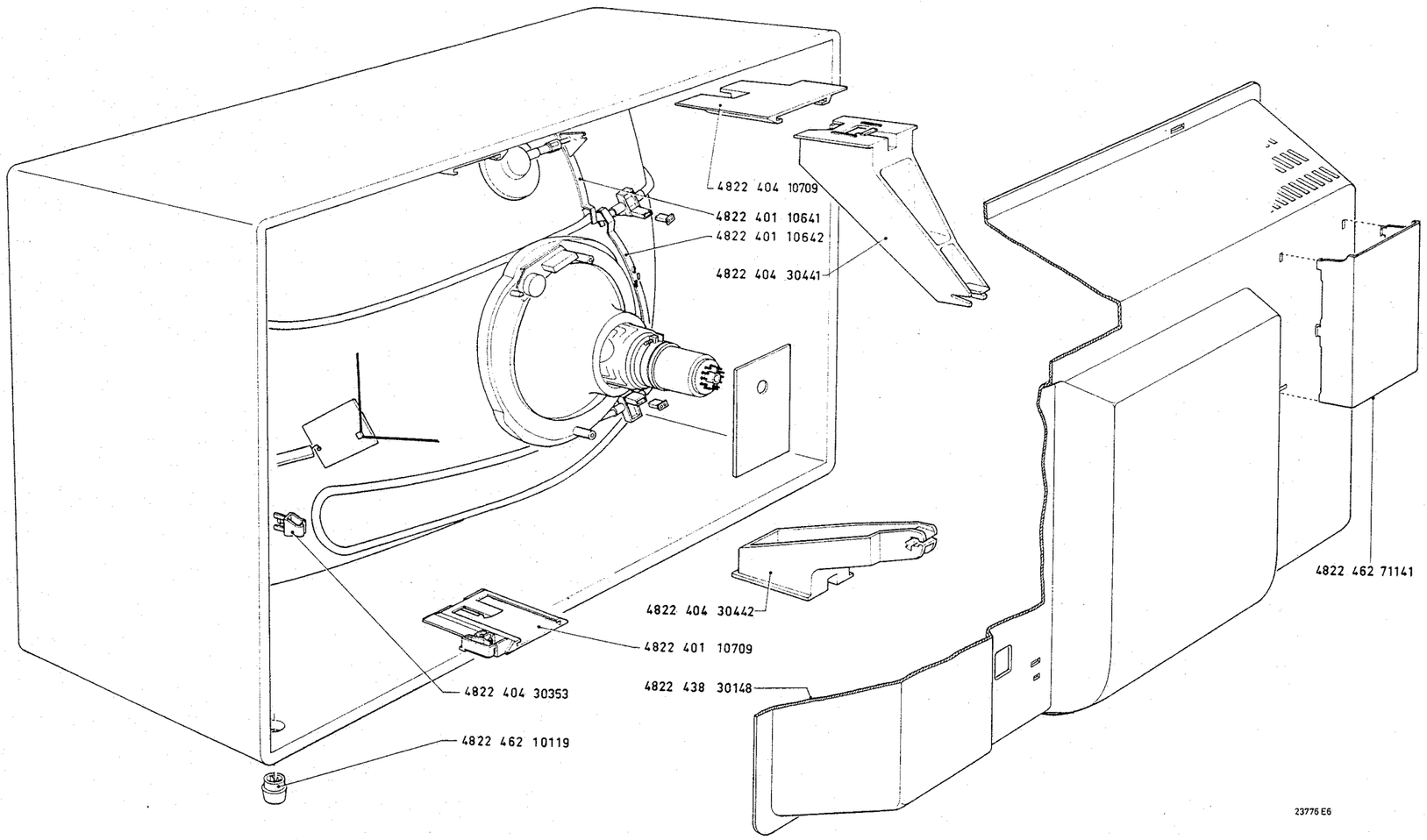


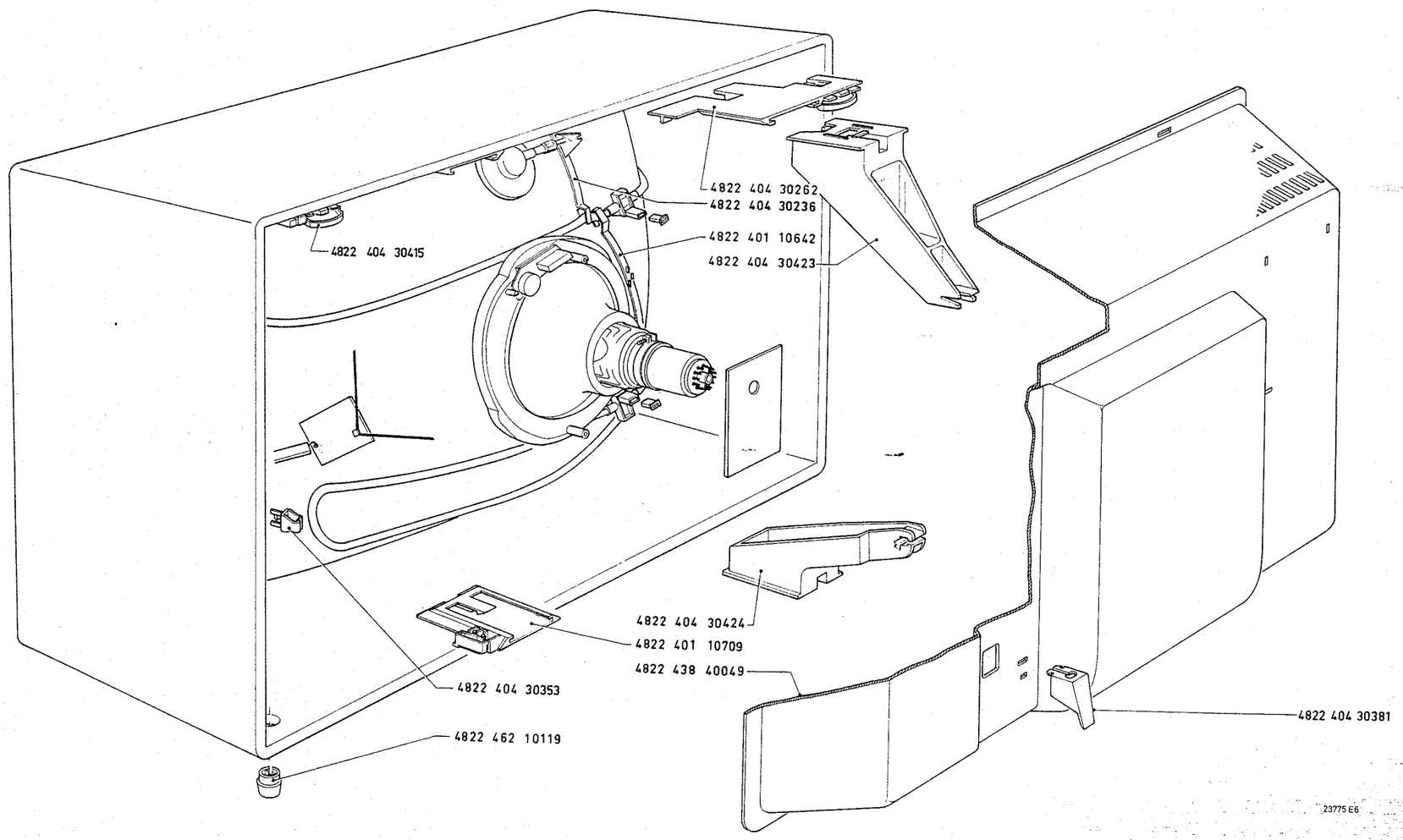

21482 A12

20475B17

For 22CS1201



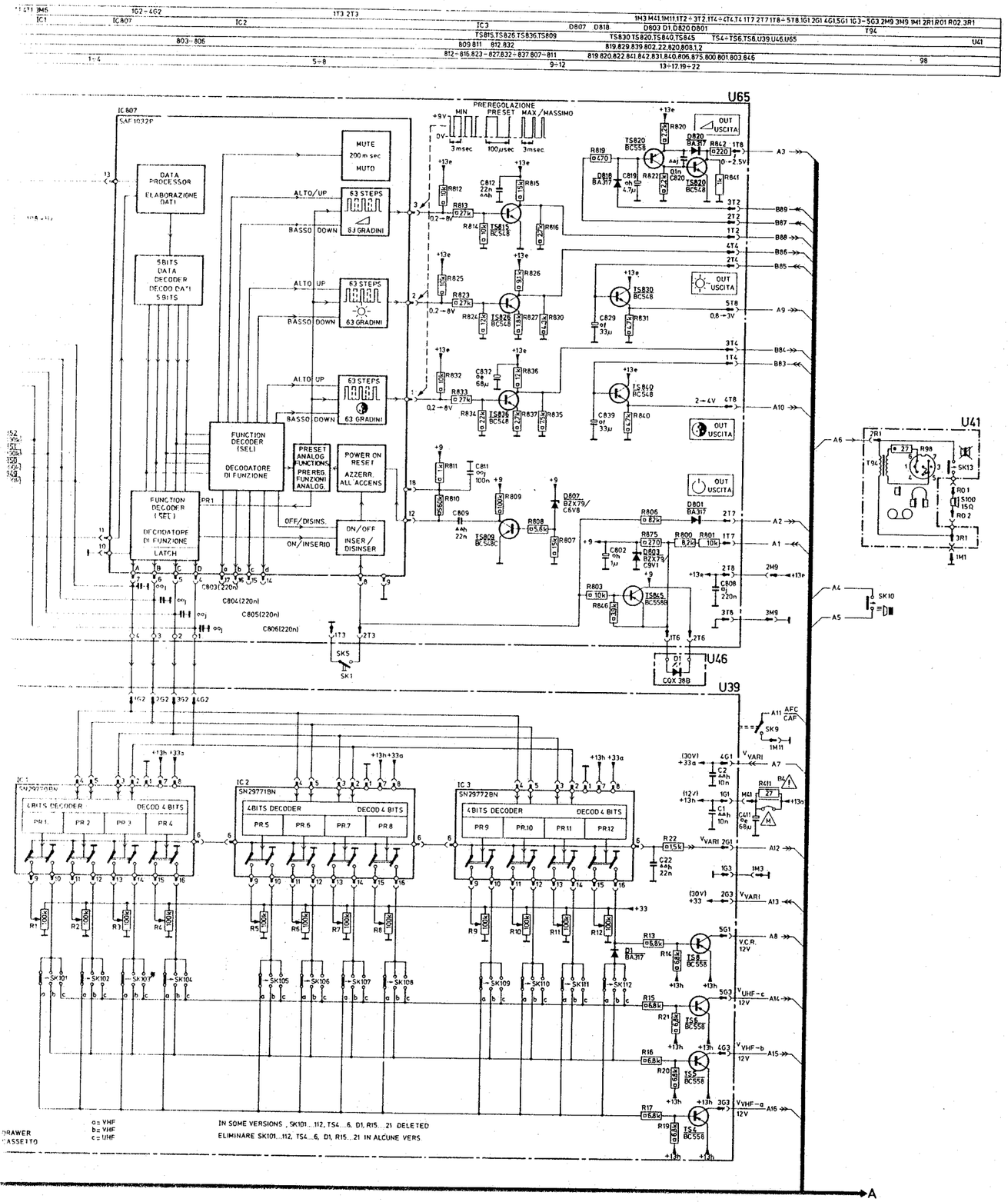

For 26CS1205



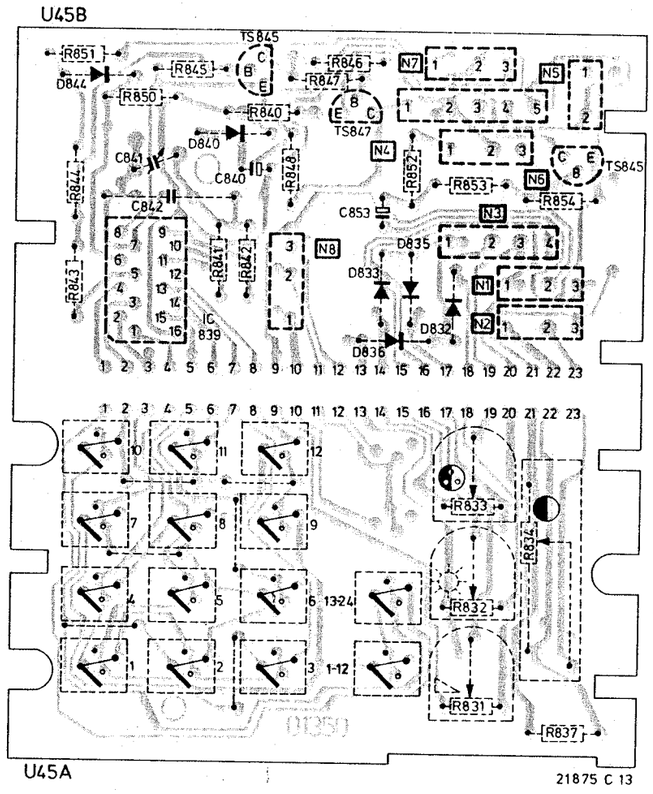
# DIAGRAM - SCHALTBILD - SCHEMA B

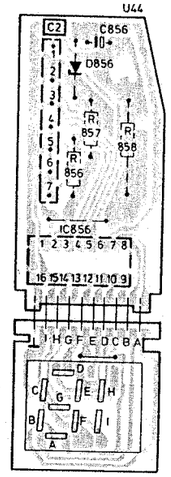
| | | |

# DIAGRAM - SCHALTBILD - SCHEMA B




21595E20

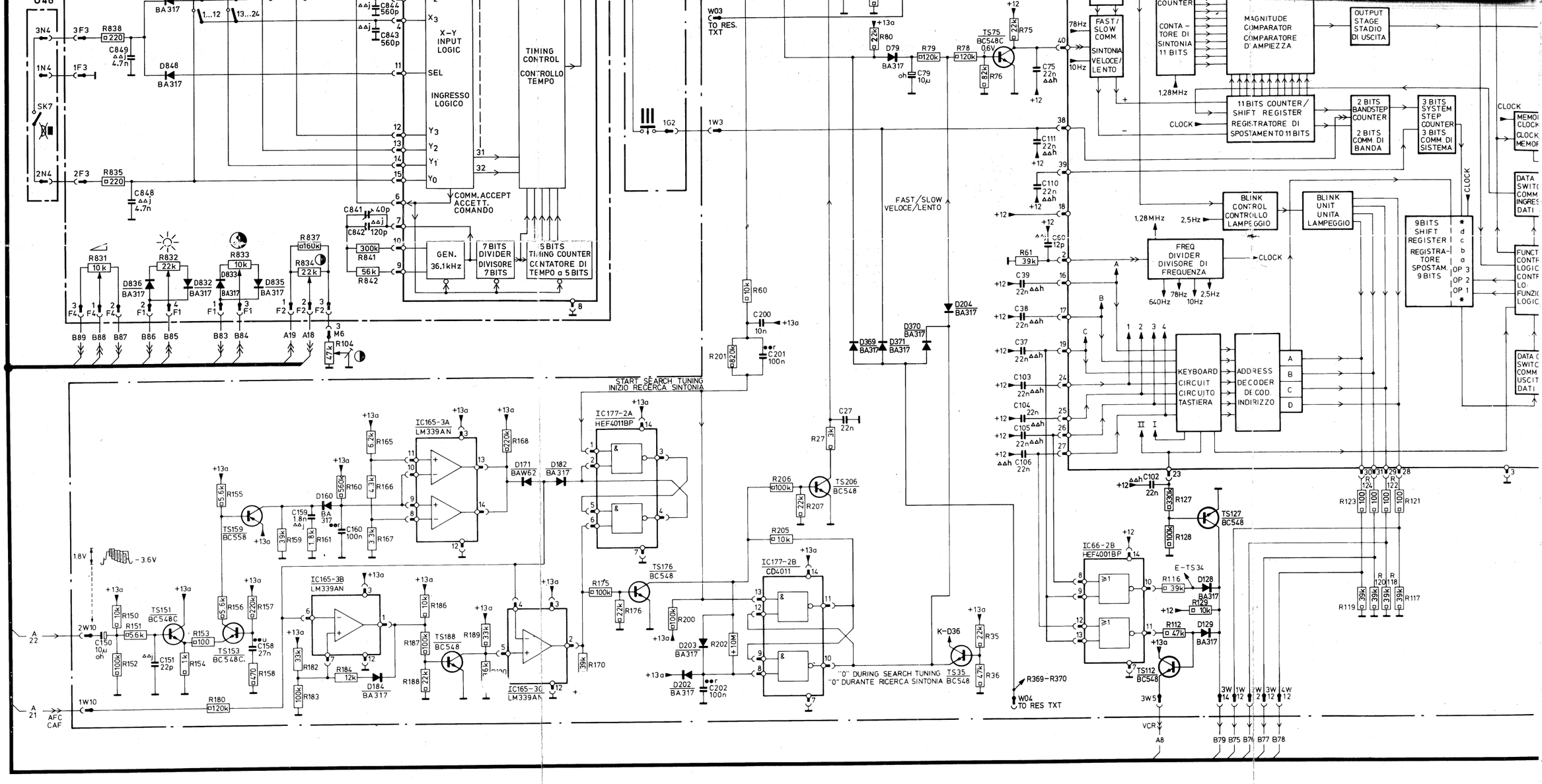


# DIAGRAM – SCHALTBILD – SCHEMA B

| | | |

| | | |


X-Y INPUT LOGIC
INGRESSO LOGICO
SEL
TIMING CONTROL
CONTROLLO TEMPO
COMM. ACCEPT
ACCETT. COMANDO
GEN. 36.1kHz
7 BITS DIVIDER DIVISORE 7 BITS
5 BITS TIMING COUNTER CONTATORE DI TEMPO a 5 BITS
FAST/SLOW VELOCE/LENTO
FAST/SLOW COMM.
SINTONIA VELOCE/LENTO
MAGNITUDE COMPARATOR
COMPARATORE D'AMPIEZZA
OUTPUT STAGE
STADIO DI USCITA
11 BITS COUNTER/SHIFT REGISTER
REGISTRATORE DI SPOSTAMENTO 11 BITS
2 BITS BANDSTEP COUNTER
2 BITS COMM. DI BANDA
3 BITS SYSTEM STEP COUNTER
3 BITS COMM. DI SISTEMA
BLINK CONTROL
CONTROLLO LAMPEGGIO
BLINK UNIT
UNITA LAMPEGGIO
FREQ DIVIDER
DIVISORE DI FREQUENZA
9 BITS SHIFT REGISTER
REGISTRATORE SPOSTAM. 9 BITS
KEYBOARD CIRCUIT
CIRCUITO TASTIERA
ADDRESS DECODER
DECOD. INDIRIZZO
START SEARCH TUNING
INIZIO RICERCA SINTONIA
"0" DURING SEARCH TUNING
"0" DURANTE RICERCA SINTONIA
TO RES. TXT
W03
W04
R369-R370
VCR
CLOCK
1,28MHz
2,5Hz
78Hz
640Hz
10Hz
IC177-2A HEF4011BP
IC177-2B CD4011
IC165-3A LM339AN
IC165-3B LM339AN
IC66-2B HEF4001BP
TS176 BC548
TS206 BC548
TS127 BC548
TS112 BC548
TS35 BC548
TS159 BC558
TS151 BC548C
TS153 BC548C
TS75 BC548C
D171 BAW62
D182 BA317
D184 BA317
D202 BA317
D203 BA317
D204 BA317
D369 BA317
D370 BA317
D371 BA317
D128 BA317
D129 BA317
E-TS34
K-D36

U43

2x SONG II

U47

U41

23276 F11 (163)

CS 75 909

# DIAGRAM - SCHALTBILD - SCHEMA - A

| | | |

4M5.2M5.1M6.2M6. 1M7.3Z7.4Z7 2M7.5M9.2M13.5M9.3M13.1M5.1Z1.2Z1.3M5 M02 3M13 M03 5M3.3M3.4M3.4M4.2M3. 2M4 1N1÷3N1 1M9 5M10. M04 . 2M11 2M8.1M8.2M1.L01.R2 M05.1M14

D422 D423 D420 TS535 D444.TS426.D435 D273.TS273.257.D287.TS274.258.276.260.D276.286.285.269 D455.454

3.TS514.D464.TS523 TS530.532 TS562 D567.562 D586.D576.D583···D587. 590 TS490.485.D514.D221 TS494 D401 D45.257.241 TS241.242.244.D271.255.260.244.270.254.253

3.462.U194.195.191.S464.466.T465.S563 U100R S584.S559.T564 U91L S587.560.561.490. S210 S219 U3 U8 U6 U9 S121 S122 S127 S133 S138 U161.S139 U145.175.S250.282.266.U10. U157 U158.S413 S604.603.156. U7 U5 B100

193 206.204.207 205.194 192.191 212 210.229.228.231 230.219.233.216.218.232 221 222 121 122 124···127 130···133 161 137···140.144.163.164.154.145···148.175.158 150 167···169 179.176.177 180.159.178.181···183.153.160.152.155 93.94.

0.462.460b.514.460c.541.542.522.422.531.532.521.568 563 567.562.530 559. 575. 564.560.563.584···590.582.583.565.566.561.490···492.412.445.540.484.472.402.404.405.581.579.580 503 401 410 403 464.275.259.243.281.265.249 285.269.253.250.244 413

CHROMINANCE + LUMINANCE
FARBART + LEUCHTDICHTE
CROMINANZA + LUMINANZA

U9

R-G-B AMPLIFIER
R-G-B VERSTÄRKER
AMPLIFICATORE R-V-B

U10

IC192 TDA2560Q

IC223 TDA2525Q

BLACK-LEVEL CLAMP AGGANC. LIV. NERO

GATE PORTA

BLANKING SPEGNIMENTO

BURST GATE PORTA BURST

BURST

8.86MHz

PAL SWITCH COMMUTATORE PAL

COLOUR KILLER SOPPRESS. COLORE

COLOUR AGC CAG COLORE

IDENTIFICATION IDENTIFICAZIONE

B-Y

G-Y MATRIX V-Y MATRICE

R-Y

SEE SERVICE NOTES
VEDERE NOTE SU DOCUMENTATIONE

B100

* IN CASE OF PAL/SECAM B-G
R536 AND R433 NOT PRESENT
R535 REPLACED BY JUMPER
R426=120Ω
R427=18kΩ
D435=BZX79/B9V1

HORIZONTAL
ORIZZONTALE

EAST-WEST
OST-WEST
EST-OVEST

VERTICAL
VERTIKAL
VERTICALE

SOUND
TON
AUDIO

U7

IC164 TBA120AS

IC181 TDA2611AQ

** FOR/PER 6.5MHz
C161 = 33p
C175 = 39p
R161 = 270Ω
R162 = 1.8kΩ
R175 = 150Ω
R176 = 200Ω

*FOR/PER 6MHz
C175 = 82p
R162 = 4.7kΩ
R175 = 180Ω
R176 = 120Ω

U8

U3

U322-U324 UHF

41.9MHz ✱42.2MHz 40.4MHz ✱40.9MHz

U5

IC151 TDA2541Q

SUPPLY
SPEISUNG
ALIMENTAZIONE

SYNCHRONISATION
SINCRONIZZAZIONE

HORIZONTAL
ORIZZONTALE

VERTICAL
VERTIKAL
VERTICALE

| | | |

HORIZONTAL
ORIZZONTALE

EAST-WEST
OST-WEST
EST- OVEST

VERTICAL
VERTIKAL
VERTICALE

SOUND
TON
AUDIO

TV

IC164 TBA120AS

IC181 TDA2611AQ

IC151 TDA2541Q

IC35 TDA3560

U3 U8 U6 U7 U5 U9 U10

** FOR/PER 6.5MHz
C161 = 33p
C175 = 39p
R161 = 270Ω
R162 = 1.8kΩ
R175 = 150Ω
R176 = 200Ω

*FOR/PER 6 MHz
C175 = 82p
R162 = 4.7kΩ
R175 = 180Ω
R176 = 120Ω

* FOR/PER 38.9MHz – 32.9MHz
C124 = 6.8p
C125 = 8.2p
C126 = 2.2p
C127 = 18p
C131 = 18p
C138 = 6.8p
C145 = 4.7p
R127 = 10Ω

41.9MHz *42.2MHz 40.4MHz *40.9MHz

*32.9MHz *30.9MHz 33.4MHz

K30